Subcultural Report

**Effects of Examiner's and Examinee's
Race on Psychophysiological Detection of Deception
Outcome Accuracy**

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February 1993

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This study was designed to assess how the race of the examinee and/or the race of the examiner affected the accuracies of Modified General Question Technique (MGQT) and Zone Comparison Test (ZCT) psychophysiological detection of deception (PDD) examinations. The study utilized 213 military (50 African-American, 108 Caucasian, 52 Hispanic, and 3 other), and 168 civilian (45 African-American, 110 Caucasian, and 10 Hispanic, and 3 other) examinees. Two hundred and thirty-two examinees were male and 147 examinees were female. The examiners were three African-American, three Hispanic, and seven Caucasian student examiners from the Department of Defense Polygraph Institute (DoDPI) Basic Polygraph Examiners Training Course (91-1). The students participated in the study during their 7th, 8th, 10th, and 11th weeks of instruction. Students utilized field polygraph instruments. A variety of scenarios (rape, murder, robbery) were used to program examinees to be guilty. Analyses of the data included an assessment of the effect of the race of the examinee on the accuracies of the examinations, the effect of the race of the examiner on the accuracies of the examinations, and the effect of the interaction of the race of the examinee and the race of the examiner on the accuracies of the examinations. The accuracies of the examinations were not different based on the race of the examinee, the race of the examiner, nor the interaction of the races of the examinee and examiner.

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Subcultural Report

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Sheila D. Reed, Ph.D.

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Department of Defense Polygraph Institute
Fort McClellan, Alabama 36205

Director's Foreword

This is one of the few studies in the literature designed to address whether examinee and examiner race influence the outcome of a psychophysiological detection of deception (PDD) examination. Results of this study suggest that African-Americans and Hispanics are not disparately impacted by decisions rendered following PDD examinations. These results are not surprising since similar findings have been reported in field studies, although those studies lacked the examiner/examinee race interaction.

The author's evaluation of the data suggests that there are no race related biases in PDD examination outcomes. As with most non-laboratory studies, many existing variables, some of which could have influenced the results of the study were not controlled, including: examiner experience; instrument and sensors used; test format used; and, subject sex. The fact that the subjects were obtained from two distinct populations, for which decision accuracy differed significantly, could also have influenced the results. The results of this study do, however, support the hypothesis that PDD examination results are not influenced by the race of the examination participants.

Michael H. Capps
Director

Acknowledgments

Abstract

REED, S. D. <u>Subcultural Report: Effects of examiner's and examinee's race on psychophysiological detection of deception outcome accuracy.</u> February, 1993, Report No. DoDPI94-R-0012. Department of Defense Polygraph Institute, Fort McClellan, AL 36205.--This study was designed to assess whether or not the race of the examinee, the race of the examiner, or the interaction of the race of the examinee with the race of the examiner affected the outcome accuracies of Modified General Question Technique (MGQT) and Zone Comparison Test (ZCT) psychophysiological detection of deception (PDD) examinations. The study utilized 213 military (50 African-American, 108 Caucasian, 52 Hispanic, and 3 other), 168 civilian (45 African-American, 110 Caucasian, 10 Hispanic, and 3 other) examinees. Two hundred and thirty-two examinees were male and 147 examinees were female. The examiners were three African-American, three Hispanic and seven Caucasian student examiners from the Department of Defense Polygraph Institute (DoDPI) Basic Polygraph Examiners Training Course (91-1).

The students participated in the study during their 7th and 8th weeks and their 10th and 11th weeks of instruction. Students utilized standard field polygraph instruments and conducted ZCT format examinations during weeks 7 and 8, and conducted MGQT format examinations during weeks 10 and 11. A variety of scenarios (rape, murder, robbery) were used to program examinees to be guilty. All examinations were conducted according to DoDPI standards and guidelines.

Analyses of the data included an assessment of the effect of the race of the examinee on the accuracies of the examinations, the effect of the race of the examiner on the accuracies of the examinations, and the effect of the interaction of the race of the examinee and the race of the examiner on the accuracies of the examinations. In general, there were no significant results. The accuracies of the examinations were not different based on the race of the examinee, the race of the examiner, nor the interaction of the races of the examinee and examiner.

Key-words: race, psychophysiological detection of deception (PDD), modified question technique (MGQT), accuracy, zone comparison test (ZCT)

Executive Summary

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examinee's race on psychophysiological detection of deception
outcome accuracy. February, 1993, Report No. DoDPI94-R-0012.
Department of Defense Polygraph Institute, Fort McClellan, AL
36205.

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(50 African-American, 108 Caucasian, 52 Hispanic, and 3 other),
and 168 civilian (45 African-American, 110 Caucasian, 10
Hispanic, and 3 other) examinees. Two hundred and thirty-two
examinees were male and 147 examinees were female. The examiners
were student examiners from the Department of Defense Polygraph
Institute (DoDPI) Basic Polygraph Examiners Training Course (91-
1). The study utilized the data from three African-American
students, three Hispanic students and seven Caucasian students.

      The students participated in the study during their 7th and
8th weeks and their 10th and 11th weeks of instruction. By their
7th week the students had over 20 hours of instruction in test
data analyses and had conducted more than 56 hours of PDD
examinations. Students utilized standard field polygraph
instruments and conducted ZCT examinations during weeks 7 and 8,
and conducted MGQT format examinations during weeks 10 and 11.
Both the ZCT and the MGQT are criminal specific formats. A
variety of scenarios (rape, murder, robbery) were used to program
examinees to be guilty. Since the exams were part of the
students' training, all examinations were conducted according to
DoDPI standards and guidelines.

      Analyses of the data included an assessment of the effect of
the race of the examinee on the accuracies of the examinations,
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interaction of the races of the examinee and examiner.

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There has been speculation that psychophysiological detection of deception (PDD) examinations in this country might be biased against specific racial subcultures. Post hoc evaluations of previously collected data suggest that innocent African-American males may be less likely to be cleared on the initial series. A total of 1,141 examinations from previous Department of Defense Polygraph Institute (DoDPI) classes were analyzed. There were no significant differences in accuracy for African-American guilty versus Caucasian guilty examinees (740 examinees - 601 Caucasian/139 African-American). However, for innocent examinees (401 examinees - 320 Caucasian/81 African-American) a correct NDI decision was more likely to be made if the examinee was Caucasian versus African American (*Fisher's exact two-tailed test, p = .0256*).

Before developing different techniques or approaches for subcultures, it will be important to determine whether or not cultural or subcultural characteristics moderate PDD examination results. This study assessed the effects of subcultural differences on the accuracy of the PDD exam. Separate analyses were computed on each of the following variables: (1) race of the examinee, (2) race of the examiner, (3) interactions between race of the examinee and race of the examiner, and (4) accuracy differences between innocent and guilty examinees for each category.

<center>Method</center>

<u>Subjects</u>
Subjects included U.S. Army personnel assigned to Fort McClellan, AL either during their basic training or as permanent party personnel and civilian personnel recruited from the surrounding communities. All subjects volunteered to participate in the study.

<u>Military personnel</u>. A total of 213 (172 male and 39 female) military personnel participated as part of their military training. They participated on February 19-22, 1991, February 25-27, 1991, March 1, 1991, and March 19-20, 1991. One hundred and eight of the military examinees were Caucasian, 50 African-American, 52 Hispanic, and 3 Native American (only Caucasians, African Americans and Hispanics were used in the racial analyses). The African Americans and Hispanics were recruited specifically for this study. The ages ranged from 18 to 55.

<u>Civilian personnel</u>. A contract was let to a temporary services agency to supply 30 individuals per day for a six-day period (March 21 and 22, 1991 and March 26-29, 1991). The examinees were paid $50.00 for their participation. A total of 168 PDD examinations were conducted on civilian personnel. Due

<center>1</center>

to illness, either the examinee's or the examiners, 12 civilian personnel were not administered PDD examinations. Sixty of the examinees were male and 108 were female. There were 110 Caucasians, 45 African Americans, 10 Hispanics, 2 Asians, and 1 other (only Caucasians, African Americans and Hispanics were used in the racial analyses). The ages ranged from 18 to 66.

Examiners

Examiners were 24 students enrolled in the 14-week Basic Polygraph Examiners Training Course (91-1) at the Department of Defense Polygraph Institute. Seventeen of the students were criminal investigators from several DoD agencies, six were from non-DoD federal agencies and one student was from the Anniston Police Department, Anniston, AL. Data collection occurred during the 7th and 8th weeks of the polygraph course and again during the 10th and 11th weeks. Students had completed more than 20 hours of instruction in test evaluation and had conducted more than 56 hours of PDD examinations. The 24 students included 3 African-American students (2 male and 1 female), 3 Hispanic students (all males) and 1 Caucasian female. Since there was a larger number of Caucasian examiners, the exams from only seven were used in order to restrict the discrepancy in sample sizes. In addition to the student examiners, three (1 Caucasian, 1 African-American and 1 Hispanic - all male) DoD instructors conducted examinations during weeks 10 and 11. The student examiners conducted one exam per day and the faculty examiners, when possible, conducted two exams per day. A total of 166 exams were conducted by Caucasian examiners, 60 by African-American examiners and 50 by Hispanic examiners. Half of the examiners conducted their examinations during the morning and the other half conducted their examinations during the afternoon. The examiners whose data was included in these subcultural analyses were assigned examinees based on the examinees' race.

Equipment

The student examiners used Lafayette Factfinder polygraphs to conduct the examinations. The instruments recorded four physiological channels: two pneumographs, one electrodermal, and one cardiovascular. During weeks 10 and 11, 6 of the students utilized Galvanic Skin Response (GSR) (resistance) couplers while the other 18 used GSG® (conductance) couplers. In addition, 6 student examiners used the standard plate electrodes without electrode paste, 6 used standard plate electrodes with electrode paste (mixture of a neutral base with physiological saline), and 12 used silver-silver chloride (Ag/AgCl) electrodes (6 with GSR couplers and 6 with GSG® couplers). Subjects were assigned randomly to the different equipment configurations. The different equipment configurations were part of another study. The faculty examiners used their own standard field instruments.

Testing Techniques

During the 7th and 8th weeks, the ZCT format was used and during the 10th and 11th weeks, the MGQT format was used. Both tests were conducted as taught during the DoDPI Basic Course. The examinations included the standard rights advisement and a consent form. Examiners scored their own exams (unassisted) using a 7-point scale. The decision criteria for the ZCT format required a -3 in any spot for a decision of deception indicated (DI) and a total score of +6 with each spot >=+1 for a no deception indicated (NDI) decision. Any other score was an inconclusive decision (INC). The decision criteria for the MGQT was the same as the ZCT for the DI decision. However, an NDI decision required a minimum of +3 in every spot. Military personnel were employed during the ZCT format and during the first two days of the MGQT format. The remainder of the MGQT format employed the civilian examinees. Data was not collected during the first day of either technique. This allowed the students an opportunity to become familiar with the technique.

Scenarios

The scenarios included robberies, murders, and sexual assault mock crimes typical of those used during the ZCT and MGQT portions of the DoDPI basic course. The scenarios were set by faculty examiners experienced in setting criminal scenarios for the basic course. The examinees were either all programmed guilty or all programmed innocent for any given day. During the ZCT, the examinees were programmed innocent on three days and programmed guilty on four days. During the MGQT, the examinees were programmed innocent on three days and programmed guilty on six days. Since only two days of the MGQT included military personnel, they were programmed guilty one day and programmed innocent the other. For comparison purposes, the civilian personnel had one innocent and one guilty day during the first two days. Other than these four days, the order of innocent and guilty scenarios was randomly selected.

Questionnaires

Demographic and subcultural information was obtained from the examinees by the examiner during the pretest examination. Examiners asked the examinee specific information contained on the questionnaire in Appendix A. Civilian personnel previously had completed an additional questionnaire (see Appendix B).

Procedure

When the examinees arrived at the Institute they were briefed regarding the nature of the examination and were asked to sign a consent form (Appendix C) granting permission for them to participate in the study. The scenario was enacted and each examinee was assigned to an examiner. The PDD exams were conducted, the examinees were debriefed and released.

Results

Frequency cross tabulations were constructed for each variable. Unless otherwise stated, the tables depict the levels of the variable by the examiners' decisions: no deception indicated (NDI); inconclusive (INC); deception indicated (DI). The percentages are included in parentheses next to the frequencies. Separate cross tabulations were computed for innocent examinees and for guilty examinees on each variable. Four analyses were conducted: (1) to assess the entire table, (2) to compare correct decisions against non-correct decisions (e.g., on innocent examinees the NDI decisions would be compared against the INC + DI decisions), (3) correct decisions against errors (NDI vs. DI), and (4) errors against inconclusives (e.g., on innocent examinees - DI vs. INC). When the analyses resulted in a 2 x 2 comparison, *Fisher's exact two-tailed test* was calculated. If the comparison was not a 2 x 2 and the cell sizes were adequate, a chi-square statistic was calculated. Due to the large number of analyses, statistics were considered significant only if $p = 0.015$. Appendix D contains all the statistics for all the tables - whether significant or not.

Examinee's race

Tables 1 (Innocent) and 2 (Guilty) contain the cross tabulation data for examinee's race (Caucasian/African-American) by examiner's decision. None of the results was significant. Examiner's decisions were not different for Caucasian examinees compared to examiner decisions for African-American examinees for either the innocent or the guilty.

Table 1
Cross Tabulation for Examinee's Race by Examiner's Decision for Innocent Examinees

	NDI	INC	DI	
Caucasian	32 (37.2)	31 (36.0)	23 (26.7)	86
African American	18 (39.1)	17 (37.0)	11 (23.9)	46

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Table 2
Cross Tabulation for Examinee's Race by Examiner's Decision for
Guilty Examinees

	NDI	INC	DI	
Caucasian	13 (9.8)	40 (30.3)	79 (59.8)	132
African American	6 (12.2)	12 (24.5)	31 (63.3)	49

Tables 3 (Innocent) and 4 (Guilty) contain the cross tabulation data for examinee's race (Caucasian/Hispanic) by examiner's decision. Results for the guilty examinees was not significant. Examiner's decisions were not different for guilty Caucasian examinees compared to examiner decisions for guilty Hispanic examinees. For the innocent examinees, the comparison of correct decisions versus wrong decisions was significant, *Fisher's p = 0.0098*. The innocent Caucasian examinees were more likely to receive an wrong DI decision than were the innocent Hispanic examinees. Table 5 depicts the data.

Table 3
Cross Tabulation for Examinee's Race by Examiner's Decision for
Innocent Examinees

	NDI	INC	DI	
Caucasian	32 (37.2)	31 (36.0)	23 (26.7)	86
Hispanic	22 (57.9)	13 (34.2)	3 (7.9)	38

Table 4
Cross Tabulation for Examinee's Race by Examiner's Decision for Guilty Examinees

	NDI	INC	DI	
Caucasian	13 (9.8)	40 (30.3)	79 (59.8)	132
Hispanic	3 (12.5)	5 (20.8)	16 (66.7)	24

Table 5
Cross Tabulation for Examinee's Race by Correct and Wrong Decisions on Innocent Examinees

	Correct	Wrong	
Caucasian	32 (58.2)	23 (41.8)	55
Hispanic	22 (88.0)	3 (12.0)	25

Tables 6 (Innocent) and 7 (Guilty) contain the cross tabulation data for examinee's race (African-American/Hispanic) by examiner's decision. None of the results was significant. Examiner's decisions were not different for African-American examinees compared to examiner decisions for Hispanic examinees for either the innocent or the guilty.

Table 6
Cross Tabulation for Examinee's Race by Examiner's Decision for
Innocent Examinees

	NDI	INC	DI	
African American	18 (39.1)	17 (37.0)	11 (23.9)	46
Hispanic	22 (57.9)	13 (34.2)	3 (7.9)	38

Table 7
Cross Tabulation for Examinee's Race by Examiner's Decision for
Guilty Examinees

	NDI	INC	DI	
African American	6 (12.2)	12 (24.5)	31 (63.3)	49
Hispanic	3 (12.5)	5 (20.8)	16 (66.7)	24

Examiner's race
     Tables 8 (Innocent) and 9 (Guilty) contain the cross
tabulation data for examiner's race (Caucasian/African-American)
by examiner's decision. None of the results was significant.
Decisions by Caucasian examiners were not different compared to
decisions by African-American examiners for either innocent or
guilty examinees.

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Table 8

Cross Tabulation for Examiner's Race by Examiner's Decision for Innocent Examinees

	NDI	INC	DI	
Caucasian	35 (43.2)	29 (35.8)	17 (21.0)	81
African American	13 (43.3)	12 (40.0)	5 (16.7)	30

Table 9

Cross Tabulation for Examiner's Race by Examiner's Decision for Guilty Examinees

	NDI	INC	DI	
Caucasian	8 (9.4)	24 (28.2)	53 (62.4)	85
African American	7 (23.3)	6 (20.0)	17 (56.7)	30

Tables 10 (Innocent) and 11 (Guilty) contain the cross tabulation data for examiner's race (Caucasian/Hispanic) by examiner's decision. None of the results was significant. Decisions by Caucasian examiners were not different compared to decisions by Hispanic examiners for either innocent or guilty examinees.

Table 10
Cross Tabulation for Examiner's Race by Examiner's Decision for Innocent Examinees

	NDI	INC	DI	
Caucasian	35 (43.2)	29 (35.8)	17 (21.0)	81
Hispanic	10 (43.5)	9 (39.1)	4 (17.4)	23

Table 11
Cross Tabulation for Examiner's Race by Examiner's Decision for Guilty Examinees

	NDI	INC	DI	
Caucasian	8 (9.4)	24 (28.2)	53 (62.4)	85
Hispanic	5 (18.5)	7 (25.9)	15 (55.6)	27

Tables 12 (Innocent) and 13 (Guilty) contain the cross tabulation data for examiner's race (African-American/Hispanic) by examiner's decision. None of the results was significant. Decisions by African-American examiners were not different compared to decisions by Hispanic examiners for either innocent or guilty examinees.

Table 12
Cross Tabulation for Examiner's Race by Examiner's Decision for
Innocent Examinees

	NDI	INC	DI	
African American	13 (43.3)	12 (40.0)	5 (16.7)	30
Hispanic	10 (43.5)	9 (39.1)	4 (17.4)	23

Table 13
Cross Tabulation for Examiner's Race by Examiner's Decision for
Guilty Examinees

	NDI	INC	DI	
African American	7 (23.3)	6 (20.0)	17 (56.7)	30
Hispanic	5 (18.5)	7 (25.9)	15 (55.6)	27

Examiner-Examinee interactions
        Tables 14 through 29 contain the cross tabulation data for
the different combinations of examiner's and examinee's race.
None of the results was significant. The pairing of an examinee
with the same race examiner versus a different race examiner had
no effect on the examiner's decisions (Tables 14 - 21). The
pairing of an examiner with the same race examinee versus a
different race examinee had no effect on the examiner's decisions
(Tables 22 - 29). The Hispanic/African-American combinations
were not conducted since African-American\Hispanic pairing were
not conducted.

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Table 14
Cross Tabulation for Caucasian (CAU) Examiner's Decision for
Innocent African-American (aa) or Caucasian (cau) Examinees

	NDI	INC	DI	
CAU-aa	11	9	8	28
	(39.3)	(32.1)	(28.6)	
CAU-cau	11	13	8	32
	(34.4)	(40.6)	(25.0)	

Table 15
Cross Tabulation for Caucasian (CAU) Examiner's Decision for
Guilty African-American (aa) or Caucasian (cau) Examinees

	NDI	INC	DI	
CAU-aa	2	9	22	33
	(6.0)	(27.3)	(66.7)	
CAU-cau	5	12	19	36
	(13.9)	(33.3)	(52.8)	

Table 16
Cross Tabulation for African-American (AA) Examiner's Decision
for Innocent African-American (aa) or Caucasian (cau) Examinees

	NDI	INC	DI	
AA-aa	7	8	3	18
	(38.9)	(44.4)	(16.7)	
AA-cau	4	4	2	10
	(40.0)	(40.6)	(20.0)	

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Table 17
Cross Tabulation for African-American (AA) Examiner's Decision
for Guilty African-American (aa) or Caucasian (cau) Examinees

	NDI	INC	DI	
AA-aa	4	3	8	15
	(26.7)	(20.0)	(53.3)	
CAU-cau	3	3	9	15
	(20.0)	(20.0)	(60.0)	

Table 18
Cross Tabulation for Caucasian (CAU) Examiner's Decision for
Innocent Hispanic (his) or Caucasian (cau) Examinees

	NDI	INC	DI	
CAU-his	13	7	1	21
	(61.9)	(33.3)	(4.8)	
CAU-cau	11	13	8	32
	(34.4)	(40.6)	(25.0)	

Table 19
Cross Tabulation for Caucasian (CAU) Examiner's Decision for
Guilty Hispanic (his) or Caucasian (cau) Examinees

	NDI	INC	DI	
CAU-his	1	3	12	16
	(6.2)	(18.8)	(75.0)	
CAU-cau	5	12	19	36
	(13.9)	(33.3)	(52.8)	

Table 20
Cross Tabulation for Hispanic (HIS) Examiner's Decision for
Innocent Hispanic (his) or Caucasian (cau) Examinees

	NDI	INC	DI	
HIS-his	7	6	2	15
	(46.7)	(40.0)	(13.3)	
HIS-cau	3	3	2	8
	(37.5)	(37.5)	(25.0)	

Table 21
Cross Tabulation for Hispanic (HIS) Examiner's Decision for
Guilty Hispanic (his) or Caucasian (cau) Examinees

	NDI	INC	DI	
HIS-his	2	2	4	8
	(25.0)	(25.0)	(50.0)	
HIS-cau	3	5	10	18
	(16.7)	(27.8)	(55.5)	

Table 22
Cross Tabulation for Innocent Caucasian (cau) Examinees with
African-American (AA) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
AA-cau	4	4	2	10
	(40.0)	(40.0)	(20.0)	
CAU-cau	11	13	8	32
	(34.4)	(40.6)	(25.0)	

Table 23
Cross Tabulation for Guilty Caucasian (cau) Examinees with
African-American (AA) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
AA-cau	3 (20.0)	3 (20.0)	9 (60.0)	15
CAU-cau	5 (13.9)	12 (33.3)	19 (52.8)	36

Table 24
Cross Tabulation for Innocent African-American (aa) Examinees
with African-American (AA) or Caucasian (CAU) Examiner's
Decisions

	NDI	INC	DI	
AA-aa	7 (38.9)	8 (44.4)	3 (16.7)	18
CAU-aa	11 (39.3)	9 (32.1)	8 (28.6)	28

Table 25
Cross Tabulation for Guilty African-American (aa) Examinees with
African-American (AA) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
AA-aa	4 (26.7)	3 (20.0)	8 (53.3)	15
CAU-aa	2 (6.0)	9 (27.3)	22 (66.7)	33

Table 26
Cross Tabulation for Innocent Caucasian (cau) Examinees with
Hispanic (HIS) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
HIS-cau	3 (37.5)	3 (37.5)	2 (25.0)	8
CAU-cau	11 (34.4)	13 (40.6)	8 (25.0)	32

Table 27
Cross Tabulation for Guilty Caucasian (cau) Examinees with
Hispanic (HIS) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
His-cau	3 (16.7)	5 (27.8)	10 (55.5)	18
CAU-cau	5 (13.9)	12 (33.3)	19 (52.8)	36

Table 28
Cross Tabulation for Innocent Hispanic (his) Examinees with
Hispanic (HIS) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
HIS-his	7 (46.7)	6 (40.0)	2 (13.3)	15
CAU-his	13 (61.9)	7 (33.3)	1 (4.8)	21

Table 29
Cross Tabulation for Guilty Hispanic (his) Examinees with
Hispanic (HIS) or Caucasian (CAU) Examiner's Decisions

	NDI	INC	DI	
HIS-his	2	2	4	8
	(25.0)	(25.0)	(50.0)	
CAU-his	1	3	12	16
	(6.2)	(18.8)	(75.0)	

Examinee's role

The following analyses were designed to assess whether any of
these variables differentially influenced the accuracy rates of
guilty versus innocent examinees. These analyses used only the
civilian personnel. Cross tabulations of innocent and guilty
examinees were generated for each of the following variables -
Caucasian examinee, African-American examinee, Hispanic examinee,
Caucasian examiner, African-American examiner, Hispanic examiner,
and each of the relevant dyads. None of the analyses was
significant. Accuracy rates did not differ for innocent compared
to guilty examinees on any of the subcultural variables.

Discussion

The results suggest that the psychophysiological detection of
deception (PDD) tests are relatively robust with respect to
subcultural factors. Of all the analyses that were conducted to
assess effects of racial or subcultural differences, there was
only one significant finding. Decisions were more accurate for
programmed innocent Hispanic examinees than for programmed
innocent Caucasian examinees. For the lack of a better
explanation, given the large number of analyses that were
conducted, it is entirely possible that this result is simply due
to chance. Although these results suggest that accuracy rates
for African-American and Hispanic examinees were no different
than the accuracy rates for Caucasian examinees, the setting and
the general experience level of the examiners must be considered.
Students (and the instructors) would be aware that the African-
American and Hispanic examinees would be no more (or no less
likely) than the Caucasian examinees to have committed the mock

crime. In a true criminal investigation, an examiner might be more biased to expecting an African-American or Hispanic to be guilty. However, if that were true and the outcomes were biased, that would be an examiner bias NOT a bias in the examination itself.

Appendix A

POLYGRAPH EXAMINATION AND DEMOGRAPHIC WORK SHEET

CASE NUMBER _____ BEGIN TIME_____ END TIME_____

NAME_____EXAM PURPOSE_____

PREVIOUS POLYGRAPH_____   _____ _____
                        place   date   purpose

EXAMINER_____ORGANIZATION_____ DATE_____

1)   How accurate do you think the polygraph is in general?_____%
     How accurate will the polygraph be with you today?_____%

               SUBJECT INFORMATION AND BACKGROUND
2)   AGE_____
3)   GENDER: 1 - MALE   2 - FEMALE
3)   RACE: 1 - CAUCASIAN 2 - AFRO-AMERICAN 3 - HISPANIC 4 - ASIAN
             5 - NATIVE AMERICAN   6 - OTHER (specify)_____

4)   FAMILY BACKGROUND (Name, Age, POB, and occupation for each):
     Mother _____

     Father _____

     Brother(s)_____

     Sister(s)_____

     Children_____

5)   EDUCATION: #YEARS COMPLETED _____ DEGREE _____ MAJOR _____
     Last School Attended _____GT (IQ)_____

6)   EMPLOYMENT (Month & Year, Employer, Examinee's Position):
     _____
     _____
     _____
     _____

7) MILITARY SERVICE (Month & Year, Service, Location, Rank):

_____
_____
_____
_____

8) ARREST RECORD:
   (Month & Year, Location, Offense, Disposition - Civilian/Military)

_____
_____
_____
_____

9) LEISURE ACTIVITIES (Sports and Hobbies):

_____
_____
_____
_____

10) MEDICAL HISTORY
    Date of last Physical_____
    Date Last Hospitalized _____ Reason_____
    Most Recent Ailment _____
    Color Blind: 1 - YES 2 - NO   Height _____ Weight _____

11) PRESENT HEALTH:
    Health Problems 1 - NONE 2 - Not Bad 3 - Mild 4 - Moderate
                              5 - Bad   6 - Very Bad

    Pain/Discomfort Today: Reason_____
    1 - NONE   2 -Not Bad   3 -Mild   4 - Moderate
                 5 - Bad   6 - Very Bad

    Medication (past 24 hrs) Name_____
      Quantity _____ Time Taken _____

12) SUBSTANCE USE:
    Narcotics/Drugs (past 24 hrs) TYPE _____
    Caffeine 1 -NO 2 -Past hour 3 -Past 24 hours 4 -This week
    Alcohol 1 -NO 2 -Past hour 3 -past 24 hours 4 -This week
    Tobacco 1 -NO 2 -Past hour 3 -Past 24 hours 4 -This week

13) SLEEP:
    Amount of sleep during past 24 hours _____
    Time subject woke up today _____
    Number of hours subject has been awake _____

14) COMMENTS:

```
***************EXAM COMPLETED**********************************
```

15) Has this exam changed your opinion of the
       accuracy of the polygraph?   YES   NO
       Now how accurate do you believe the polygraph is? _____%

                    EXAMINATION INFORMATION

16) TEST TYPE: 1 -MGQT 2 - CSP 3 - ZCT 4 - RI 5 - GQT 6 - POT

17) DECISION: Examinee's _____ Instructor's _____
        1 -NO deception 2 -Inconclusive 3 -Deception 4 -Incomplete

18) TOTAL TIME: (Minutes) _____

19) Role of Subject: 1 - Innocent   2 - Guilty   3 - Other

20) Scenario Number: _____

21) How alert was the subject:
     1 - Fell asleep often
     2 - Fell asleep once or twice
     3 - Didn't fall asleep but was not very attentive
     4 - Reasonably attentive
     5 - Very alert

22) Any Errors? (specify)
_____

DEMOGRAPHIC SURVEY   DATE _____
                                            (21,22,26,27,28,29)
                                            TIME_____
                                            (AM/PM)

NAME _____
                        (PLEASE PRINT)

PHONE _____ ALTERNATE PHONE _____

ADDRESS_____

MARK ONE

1. MALE _____
   FEMALE_____

2. AGE -   18 - 25 _____
           26 - 35 _____
           36 - 45 _____
           46 - 55 _____
           56 AND OLDER _____

   BIRTHDATE _____

3. NO HIGH SCHOOL DIPLOMA _____
   HIGH SCHOOL DIPLOMA (INCLUDING GED) _____
   SOME COLLEGE WORK COMPLETED_____

4. BLACK _____
   CAUCASIAN _____
   HISPANIC _____
   OTHER _____

5. BIRMINGHAM RESIDENT _____ (URBAN)
   CALHOUN COUNTY RESIDENT _____ (RURAL)

HAVE YOU MADE AN INDIVIDUAL INCOME OF OVER $20,000 WITHIN THE LAST
FIVE YEARS?   YES _____   NO _____

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Appendix C

GENERAL RELEASE AND CONSENT FOR TRAINING

The Department of Defense has asked me to voluntarily participate in a polygraph exercise. I have been told that I have the absolute right to refuse for any reason and that I do not have to reveal that reason if I do not desire. I understand that if I refuse nothing will happen to me now or in the future because I refused. I will not be punished by anyone to include anyone in my company. I understand that I will be observed and listened to during parts of this exercise by staff of the Department of Defense Polygraph Institute and anyone that may be permitted to observe and listen. I understand that I will be recorded on video and audio tape recorders. I understand that this general release and consent remains in effect forever. I understand that I will be required to sign appropriate rights waivers and polygraph examination consent forms following complete explanations of them. I agree and consent completely to:

     a. Participate as directed by the staff of this Institute.

     b. Be tested as many times as requested on a polygraph instrument (lie detector).

     c. To be interviewed or interrogated and to answer any and all questions as directed.

     d. To reveal any sickness, injury, or condition (mental or physical) that I now have or have had only for the purpose of making sure that I am a fit person to be tested and to prevent any injury.

     e. To be photographed and recorded on video and audio tape recorders.

     f. To allow the government to use my name in connection with this exercise to identify video and audio tapes and polygraph tracings.

     g. To allow the government to use anything connected with this exercise in any way and in any form and as many times as they see fit. I give up any and all ownership rights I may have in any writings, photographs video and audio recordings and polygraph tracings, now and forever no matter how they are used ever by anyone the government allows.

I give this release and consent without any hope of reward or compensation (money or anything else) now or anytime in the

future. I have not been ordered to consent and I have not been threatened in any way. I give this consent to <u>everything</u> stated above and agree to follow the directions of the staff of this Institute.

_____   _____
(WITNESS SIGNATURE)   (SIGNATURE)

_____   _____
(WITNESS PRINTED NAME)   (PRINTED NAME)

_____ _____   _____ _____
(WITNESS RANK)   (DATE)   (COMPANY)   (DATE)

Appendix D

Statistics for all tables

Table	Initial analysis	Correct/ Wrong	*(Fisher's two-tailed, p)* Correct/ Non-Correct	Wrong Inclusive
1	$X2(2,132) = .129, p<.9374$	.8171	.8524	.8169
2	$X2(2,181) = .684, p<.7102$	.7867	.7337	.5417
3	$X2(2,124) = 7.08, p<.0290$	.0098	.0488	.1394
4	NA	1.0000	.6511	.4215
5		.0098		
6	$X2(2,84) = 4.786, p<.0913$	.0595	.1243	.1954
7	NA	1.0000	1.0000	1.0000
8	$X2(2,111) = .311, p<.8561$	.7759	1.0000	.7673
9	NA	.1132	.6650	.0864
10	NA	.0000	1.0000	.7541
11	NA	.2907	.6516	.2952
12	NA	1.0000	1.0000	1.0000
13	$X2(2,57) = .378, p<.8276$	1.0000	1.0000	.6951
14	$X2(2,60) = .463. p<.7935$	1.0000	.7907	.7430
15	NA	.4158	.3271	.6683
16	NA	1.0000	1.0000	1.0000
17	NA	1.0000	1.0000	1.0000
18	NA	.0466	.0894	.3715
19	NA	.3945	.2204	1.0000
20	NA	.5804	1.0000	1.0000
21	NA	1.0000	1.0000	1.0000
22	NA	1.0000	1.0000	1.0000
23	NA	1.0000	.7610	.6214
24	NA	.6942	1.0000	.4349
25	NA	.1495	.5216	.1414
26	NA	1.0000	1.0000	1.0000
27	NA	1.0000	1.0000	1.0000
28	NA	.5375	.4996	1.0000
29	NA	.2219	.3625	1.0000